POLYIMIDE FILM AND SUBSTRATE FOR ELECTRIC AND ELECTRONIC APPARATUS USING SAME

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Abstract

PROBLEM TO BE SOLVED: To obtain a substrate which has low coefficient of linear thermal expansion, water absorption, and coefficient of expansion due to moisture absorption and excellent elastic modulus and dimensional stability by using a polyimide film having specified tensile modulus, coefficient of expansion due to moisture absorption, coefficient of linear thermal expansion, and water absorption.
SOLUTION: This polyimide film has a tensile modulus of 700 kg/mm2 or lower, a coefficient of expansion due to moisture absorption of 20 ppm or lower, a coefficient of linear thermal expansion at 100-200 deg.C of 5-15 ppm, and a water absorption of 3.0% or lower and contains repeating units represented by formula I, wherein R1 is a divalent organic group selected from among groups represented by formulas II, III, and the like; R4 is CH3, Cl, Br, F or CH3; R is a divalent organic group represented by formula IV or V; n is 1-3; X, Y, and Z are each a monovalent group selected from among H, halogen, carboxyl, 6C or lower alkyl, etc.; and A is a divalent linking group selected from among O, S, CO, etc. This film is prepared by subjecting a polyamic acid solution to dehydration, imidization by cyclization, and film formation.